

2960-97005 PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. : 10/573,057

Applicant : WILSON

Filed : 17 May 2007

Art Unit : 3734

Examiner : HALL

Docket No. : 2960-97005

Customer No.: 24628

Title: DRYER, DRYING METHOD AND  
DRYING PLANT

Confirmation No.: 8961

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**AMENDMENT**

Dear Sir:

The Office Action of 18 February 2011 has been carefully reviewed and the following amendments and remarks are made in response thereto:

**Amendments to the Claims** begin on page 2 of this paper.

**Remarks/Arguments** begin on page 7 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A dryer for drying pellets containing brown coal, comprising at least one substantially vertical elongate container having:

an open upper inlet for receiving a charge of moisture and the brown coal containing pellets;

an open lower outlet for discharging dried brown coal containing pellets, whereby said pellets travel under the influence of gravity from said open upper inlet to said open lower outlet in a substantially continuous manner;

two substantially vertical and opposed gas permeable walls through which a drying gas at temperatures from about 15°C to about 80°C can pass to contact said pellets;

wherein the gas permeable walls comprise a substantially continuous corrugated plate, wherein each corrugation comprises a generally vertically oriented impervious supporting leg and an adjacent generally horizontally oriented permeable leg angled with respect to each other, the permeable leg having spaced openings for the passage of the drying gas;

said dryer also comprising at least a first and a second plenums on exterior surfaces of said gas permeable walls, wherein the plenums are divided into zones of differing air stream properties, said air stream properties selected from the propertiesgroup consisting of velocity, flow direction, temperature and pressure, said first and second plenums being connected to allow the recycling of the drying gas.

2. (Cancel)

3. (Cancel)
4. (Previously Presented) The dryer according to claim 1 wherein ingress openings and egress openings are respectively provided within said gas permeable walls.
5. (Previously Presented) The dryer according to claim 4 wherein a plenum covering said ingress openings comprises at least one inlet and a plenum covering egress openings comprises at least one outlet.
6. (Previously Presented) The dryer according to claim 5 wherein the at least one outlet comprises at least one extract duct.
7. (Previously Presented) The dryer according to claim 5 wherein drying gas is drawn into the at least one inlet by a circulator.
8. (Original) The dryer according to claim 7 wherein the circulator is an induced draft fan.
9. (Previously Presented) The dryer according to claim 1 wherein the direction of drying gas flow through the charge of pellets is reversed from one plenum zone to an adjacent plenum zone.
10. (Previously Presented) The dryer according to claim 5 wherein a desiccator or refrigerator is provided in conjunction with the at least one outlet to recover water from drying gas exiting the dryer.
11. (Previously Presented) The dryer according to claim 1 having a height to width ratio of at least 3:1.

12. (Previously Presented) The dryer according to claim 1 having a height to width ratio of at least 5:1.
13. (Previously Presented) The dryer according to claim 1 having a height to width ratio of at least 10:1.
14. (Cancel)
15. (Original) The dryer according to claim 14 wherein the supporting members are internal membrane walls that divide the dryer into a plurality of adjacent cells.
16. (Original) A cell of a dryer according to claim 15.
17. (Previously Presented) A drying plant comprising:
- (a) a conditioning bed for subjecting moisture and brown coal containing pellets to surface conditioning;
  - (b) at least one conveyer for conveying said surface conditioned brown coal containing pellets to the open upper inlet of a dryer according to claim 1;
  - (c) a collection surface for retrieving dried pellets from the dryer; and
  - (d) a pellet remover for removing dried pellets from said collection surface.
18. (Original) The drying plant according to claim 17 further comprising a compactor for production of brown coal containing compacted bodies.
19. (Previously Presented) The drying plant according to claim 18 wherein the compactor comprises a mixing and conditioning device and a pelletizer.

20. (Previously Presented) A dryer for drying pellets containing brown coal comprising at least one substantially vertical elongate container having:
- an open upper inlet for receiving a charge of brown coal pellets;
  - an open lower outlet for discharging dried pellets, whereby said pellets travel under the influence of gravity from said inlet to said outlet in a substantially continuous manner;
  - two opposing substantially vertical gas permeable walls through which a drying gas at temperatures of from about 15°C to about 80°C can pass to contact said pellets; wherein the gas permeable walls comprise a substantially continuous corrugated plate, wherein each corrugation comprises an impermeablea supporting leg adjacent and a permeable leg and angled with respect to each other, said supporting leg being substantially vertical, said permeable leg being substantially horizontal with spaced openings;
- said dryer also comprising plenums on external surfaces of the gas permeable walls, wherein the plenums are divided into at least a first and second zones of differing air stream properties and wherein the direction of drying gas flow through the charge of brown coal containing pellets is reversed from one plenum zone to an adjacent plenum zone; the dryer comprising lateral internal membrane walls joining opposing gas permeable walls that divide the dryer into a plurality of adjacent cells, said first and second zones being connected to allow the recycling of the drying gas.

21. (Previously Presented) A method of drying brown coal which comprises introducing brown coal fines into the compactor of the drying plant according to claim 18.

22. (Cancelled)

23. (Cancelled)

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24. (Previously Presented) The dryer according to claim 1, wherein said plenums are located external to said substantially vertical elongate container.

25. (Previously Presented) The dryer according to claim 20, wherein said plenums are located external to said substantially vertical elongate container.

### **REMARKS / ARGUMENTS**

Claims 1, 4-19, 21 and 24-25 have been rejected as indefinite. Applicant has amended Claim 1 to remove the indefiniteness and, as now claimed, recites an open upper inlet for receiving a charge of moisture and brown coal containing pellets. Further, Applicant has replaced the limitation of "group" in line 17 of Claim 1 with the "the properties." Applicant does not understand the comment regarding the limitation of "open" in line 5 of Claim 17. The open upper inlet of claim 17 is positively recited in Claim 1, in line 3, upon which Claim 17 depends.

Claims 1, 4-9, 11-13 17-19, 21 and 24 have been rejected as unpatentable over the Wilson et al. article in view of Pietsch and further in view of McLaren. In line with the interview with the Examiner, as summarized in the Interview Summary of April 12, 2011, Applicant has amended Claim 1 so that it now recites that each corrugation comprises a generally vertically oriented impervious supporting leg and an adjacent generally horizontally oriented permeable leg with the permeable leg having spaced openings for the passage of drying gas. Further, Applicant has divided the dryer into first and second plenums, which plenums are connected to allow recycling of the drying gas.

As now recited Applicant does not believe that the prior art of record shows the newly recited features in combination with one another, and in combination with the remaining elements of the of Claim 1 and, accordingly, Applicant believes such to be allowable.

Applicant hereby requests reconsideration and reexamination thereof.

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No further fee or petition is believed to be necessary. However, should any further fee be needed, please charge our Deposit Account No. 23-0920, and deem this paper to be the required petition.

With the above amendments and remarks, this application is considered ready for allowance and applicant earnestly solicits an early notice of same. Should the Examiner be of the opinion that a telephone conference would expedite prosecution of the subject application, he is respectfully requested to call the undersigned at the below listed number.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Gerald T. Shekleton". The signature is fluid and cursive, with the first name "Gerald" being more legible than the last name "Shekleton".

Dated: 20 April 2011

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